

As shown in our Fig. 8, it takes a long time to increase the temperature at the proximal end (L) of the gas receiving surface region 13. Further, as shown in our Fig. 9, the temperature distribution of the oxygen sensing element 1 is essentially uniform in a region from the element tip 14 to the 0.8L position but steeply declines in the region exceeding 0.8L. Such a local temperature reduction results in deteriorated response (i.e., temperature increasing speed) in the sensor performance.

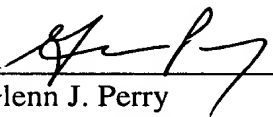
Our inventors recognized and overcame the problems inherent with an insufficiently activated region (i.e., the surface region exceeding 0.8L). On the other hand, as the Examiner reported, Hayakawa et al. fails completely to suggest any significance to the claimed quantitative dimensional relationships. Thus, unlike our claimed invention, the sensor output of the Hayakawa-like sensor will be adversely influenced by the signal obtained from the surface region exceeding 0.8L.

For the above reasons, Applicants respectfully request withdrawal of the rejection of independent claims 1 and 6 as well as dependent claims 2-5 and 7-14 under 35 U.S.C. 103. Applicants thus respectfully request reconsideration and allowance of the claims as originally presented.

Respectfully submitted,

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